



MARINE MAMMAL COMMISSION

24 September 2014

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Navy's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take marine mammals by harassment. The taking would be incidental to pile driving and removal in association with a pier replacement project in San Diego Bay, California, during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 5 September 2013 notice (79 Fed. Reg. 53026) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions. The Commission commented on the first year of activities in 2013.

Background

The Navy plans to install and remove piles during demolition and replacement of the fuel pier at Pt. Loma Naval Base. This would be the second authorization for the four-year project. During the second year of activities, the Navy would install 219 18- to 36-in steel pipe piles using a vibratory and an impact hammer. The Navy would remove up to 402 concrete, plastic, or timber piles when it demolishes the old fuel pier over the course of the entire project. It could remove the piles using dry pull, clamshell dredge, underwater chainsaw, pneumatic chipper, underwater jetting, or vibratory hammer. The Navy expects the in-water activities to occur for a maximum of 135 days, primarily from 1 October 2014–31 March 2015. Activities would be limited to daylight hours only.

NMFS preliminarily has determined that, at most, the proposed activities would temporarily modify the behavior of small numbers of harbor seals, California sea lions, bottlenose dolphins, common dolphins, and gray whales. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the proposed mitigation and monitoring measures. Those measures include—

- conducting empirical in-water and -air sound measurements of (1) installation of the various sizes of piles using a vibratory and impact hammer¹, (2) removal of the piles using a vibratory hammer and pneumatic chipping, and (3) ambient underwater sound;
- using soft-start, delay, and shut-down procedures;
- using three to seven qualified protected species observers (land-, pier-, and/or vessel-based) to monitor the harassment zones for 15 minutes before, during, and for 30 minutes after pile driving and removal activities;
- ceasing other heavy machinery work if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and local stranding network using NMFS's phased reporting approach and suspending activities, if appropriate; and
- submitting draft and final acoustic and marine mammal monitoring reports to NMFS.

In-situ acoustic monitoring

NMFS normally uses 120 dB re 1 μ Pa as the threshold for Level B harassment for vibratory pile driving. However, for the purpose of estimating the extent of the Level B harassment zone for reporting the numbers of animals taken under the previous authorization, the Navy appears to have used a threshold of 128 dB re 1 μ Pa based on the average ambient sound levels² measured in San Diego Bay during the indicator pile program (IPP) as part of the first year of activities at the fuel pier (Naval Facilities Engineering Command Southwest (NAVFAC SW) 2014). NMFS believes, and the Commission concurs, that marine mammals in the area likely are acclimated to non-impulsive sound at levels above 120 dB re 1 μ Pa. If another authorization is granted, the Navy again would measure ambient sound levels in San Diego Bay and use that information to redefine the boundary of the Level B harassment zone. Those measurements would occur during three separate recording periods³ spaced adequately to capture variation during the notional work window of October–March consistent with NMFS (2012). The Commission agrees with such an approach, but it notes that ambient sound levels can vary considerably and that variation should be included when adjusting any threshold used as the basis for regulatory purposes by NMFS.

For example, the ambient sound levels ranged from 118–155 dB at the fuel pier to 115–150 dB at the Naval Mine and Anti-submarine Warfare Center (NMAWC) site, approximately 4 km north of the fuel pier. However, more strikingly, the average ambient sound levels near the project area varied from a mean of 128 dB (during IPP at the fuel pier) to 123.5 dB (outside the NMAWC site) to 123.6 dB (average data from the three closest monitoring sites in San Diego Bay⁴; see Figures 3–7 and 3–20 and Table 3–18 and accompanying text in NAVFAC SW (2014)). That variability could be either an artifact of ambient measurements being collected over non-consecutive days (28 April, 19 May, and 20 May) during IPP or of the locations of the monitoring stations. Although the

¹ Including measurements of sound propagation.

² Based on daily Level Z weighted (unweighted), fast (LZF) measurements, which equate to the maximum root-mean-square value recorded for any 125-millisecond time frame during each individual recording.

³ Data would be collected for three consecutive 8-hour days absent in-water construction during each of the three recording periods.

⁴ Averages were determined for measurements from the two north bay sites and the outer bay site of the six bay-wide measurement locations. Those measurements were based on LZF (over 125 millisecond time frames) averages of consecutive 10-second time histories collected during one hour recordings at each station location per month.

sound levels are comparable between the bay-wide measurements taken at the fuel pier south towards the outer bay, the sound levels to the north of the fuel pier are lower. Therefore, sound may not propagate uniformly and reach ambient levels at the same distances both north and south of the site. To account for variability in ambient sound levels, the Commission recommends that NMFS require the Navy to use the mean ambient sound level minus at least one standard deviation (based on the three recording periods interspersed throughout the work window) down to the 120-dB re 1 μ Pa threshold as a basis for establishing the Level B harassment zone to fulfill its monitoring and reporting requirements for the proposed authorization and to inform future authorizations. In addition, the Commission recommends that NMFS require the Navy to measure ambient sound levels both to the north and south of the fuel pier site to further refine the spatial differences in ambient sound levels near the project site—similar spatially-distributed methods should be used for determining sound propagation in the far-field during installation and removal of various types and sizes of piles to identify the distance at which sound from those activities become indistinguishable from ambient.

The Commission hopes its comments are useful. Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

References

- NAVFAC SW. 2014. Naval Base Point Loma Fleet Logistics Center fuel pier replacement project: Acoustic, marine mammal, green sea turtle, and California least tern monitoring report. NAVFAC SW, San Diego, California. 98 pages.
- NMFS. 2012. Guidance document: Data collection methods to characterize underwater background sound relevant to marine mammals in coastal nearshore waters and rivers of Washington and Oregon. NMFS Northwest Region and Northwest Fisheries Science Center, Seattle, Washington. 5 pages.